

**Notice of Allowability**

Application No.

10/091,158

Examiner

Michelle R. Connelly-Cushwa

Applicant(s)

NAKAMA ET AL.

Art Unit

2874

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☐ The drawings filed on \_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☒ CORRECTED DRAWINGS must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_, which has been approved by the Examiner.
  - (c) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. 0903.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) <i>0402</i>           | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. ____              |
| 5 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. <u>0402</u> | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment                  |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material    | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|   | 9 <input type="checkbox"/> Other  |

  
**AKM ENAYET ULLAH**  
**PRIMARY EXAMINER**

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kenneth N. Nigon on September 10, 2003.

The application has been amended as follows:

Claim 9 has been amended as follows.

Claim 9 (Amended) The method of claim 8, wherein the steps of adhering the guide substrate to the transparent substrate includes the steps of:

laying the guide substrate on top of the transparent substrate in such a manner that respective outer edges of these substrates are matched;

regulating the positional relation between the guide substrate and the transparent substrate in such a manner that the center position of each of the guide holes is aligned to the center position of each of the recesses; and

adhering the guide substrate to the transparent substrate.

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

The prior art documents submitted by applicant in the Information Disclosure Statements filed on June 11, 2002 and September 30, 2002 have all been considered and made of record (note the attached copies of form PTO-1449).

***Drawings***

The drawings are objected to because:

In order to be consistent with the disclosure,

Figure 1 should be re-labeled --Figure 6--;

Figure 2 should be re labeled --Figure 1--;

Figure 3 should be re-labeled --Figure 2--;

Figure 4 should be re-labeled --Figure 3--;

Figure 5 should be re-labeled --Figure 4--; and

Figure 6 should be re-labeled --Figure 1--and should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Allowable Subject Matter***

Claims 1-10 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art cited on attached form PTO-892 is the most relevant prior art known, however, the invention of claims 1-10 distinguishes over the prior art of record for the following reasons.

Regarding claims 1-5; the claims are allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious an optical module as defined in claim 1, comprising a planar microlens array having a plurality of microlenses formed in a surface thereof, and a planar transparent substrate for adjusting a conjugate ratio of the optical module, the transparent substrate having a plurality of micro fitting recesses and being adhered to one surface of the planar microlens array in combination with the other limitations of claim 1. Claims 2-5 depend from claim 1.

Regarding claims 6-10; the claims are allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious a method as defined in claim 6, comprising preparing a planar microlens array having a plurality of microlenses formed in a surface thereof and adhering a surface of a planar transparent substrate for adjusting a conjugate ratio to one surface of the planar microlens array, the transparent substrate having a plurality of micro-fitting recesses, in combination with the other limitations of claim 6. Claims 7-10 depend from claim 6.

Figure 6A of Kato et al. (US 4,812,002) discloses a guide substrate formed from a first guide (34) having through-holes (35) and a second guide (32) having through

holes (33), wherein the fibers (28) are inserted in and protrude from the through holes (33, 35), and a planar micro-lens array (26). Kato et al., however, does not disclose a transparent substrate that includes micro-fitting recesses, that is adhered on one surface to the microlens array and on the other surface to the guide substrate, and that adjusts a conjugate ratio, as required by independent claim 1 and 6 of the present application.

Dautartas (US 6,408,120) discloses a fiber array alignment method in Figure 1, in which two guide plates (26 and 28) have through holes (24) for receiving and guiding optical fibers (22) and a third guide plate (30) has recesses for positioning the ends of the fibers (22) on one surface and recesses for positioning lenses (36) on the other surface. The third guide plate (30) includes a mechanical stop (40) that controls the precise separation between the ends of the fibers and the lenses. Dautartas, however does not teach a planar microlens array having a plurality of microlenses formed in a surface thereof, wherein the planar microlens array is adhered to a planar transparent substrate that includes a plurality of micro-fitting recesses, as required by independent claims 1 and 6 of the present application.

Hence, there is no reason or motivation for one of ordinary skill in the art to use the prior art of record to make the invention of claims 1-10.

### ***Conclusion***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

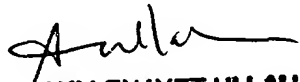
Any inquiry concerning the merits of this communication should be directed to Examiner Michelle R. Connelly-Cushwa at telephone number (703) 305-5327. The examiner can normally be reached 9:00 AM to 7:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on 703-308-4819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (703) 308-0956.

**MRCC**

Michelle R. Connelly-Cushwa  
Patent Examiner  
September 10, 2003

  
**AKM ENAYET ULLAH**  
**PRIMARY EXAMINER**